

Serial No.: 10/620,080

**AMENDMENT TO CLAIMS:**

The following listing of claims replaces all previous listings of claims in the present application.

**What Is Claimed Is:**

1. (previously presented) A method for data distribution, comprising:

distributing logical addresses among an initial set of storage devices so as provide a balanced access to the devices;

transferring the data to the storage devices in accordance with the logical addresses;

adding an additional storage device to the initial set, thus forming an extended set of the storage devices comprising the initial set and the additional storage device; and

redistributing the logical addresses among the storage devices in the extended set so as to cause a portion of the logical addresses to be transferred from the storage devices in the initial set to the additional storage device, while maintaining the balanced access and while maintaining the same logical addresses for the logical addresses in the initial set of storage devices that are not transferred to the additional storage device.

2. (original) A method according to claim 1, wherein redistributing the logical addresses comprises no transfer of the logical addresses between the storage devices in the initial set.

3. (original) A method according to claim 1, wherein distributing the logical addresses comprises applying a consistent hashing function to the initial set of storage devices so as to determine respective initial locations of the logical addresses among the initial set, and wherein

Serial No.: 10/620,080

redistributing the logical addresses comprises applying the consistent hashing function to the extended set of storage devices so as to determine respective subsequent locations of the logical addresses among the extended set.

**4. (original)** A method according to claim 1, wherein distributing the logical addresses comprises applying a randomizing function to the initial set of storage devices so as to determine respective initial locations of the logical addresses among the initial set, and wherein redistributing the logical addresses comprises applying the randomizing function to the extended set of storage devices so as to determine respective subsequent locations of the logical addresses among the extended set.

**5. (original)** A method according to claim 1, wherein at least one of the storage devices comprises a fast access time memory.

**6. (original)** A method according to claim 1, wherein at least one of the storage devices comprises a slow access time mass storage device.

**7. (original)** A method according to claim 1, wherein the storage devices have substantially equal capacities, and wherein distributing the logical addresses comprises distributing the logical addresses substantially evenly among the initial set, and wherein redistributing the logical addresses comprises redistributing the logical addresses substantially evenly among the extended set.

Serial No.: 10/620,080

**8. (original)** A method according to claim 1, wherein a first storage device comprised in the storage devices has a first capacity different from a second capacity of a second storage device comprised in the storage devices, and wherein distributing the logical addresses comprises distributing the logical addresses substantially according to a ratio of the first capacity to the second capacity, and wherein redistributing the logical addresses comprises redistributing the logical addresses substantially according to the ratio.

**9. (original)** A method according to claim 1, wherein distributing the logical addresses comprises allocating a specific logical address to a first storage device and to a second storage device, the first and second storage devices comprising different storage devices, and wherein storing the data comprises storing a first copy of the data on the first storage device and a second copy of the data on the second storage device.

**10. (original)** A method according to claim 1, and comprising writing the data from a host external to the storage devices, and reading the data to the external host from the storage devices.

**11-22. (canceled).**

**23. (previously presented)** A data distribution system, comprising:

an initial set of storage devices among which are distributed logical addresses so as provide a balanced access to the devices, and wherein data is stored in accordance with the logical addresses; and

Serial No.: 10/620,080

an additional storage device to the initial set, thus forming an extended set of the storage devices comprising the initial set and the additional storage device, the logical addresses being redistributed among the storage devices in the extended set so as to cause a portion of the logical addresses to be transferred from the storage devices in the initial set to the additional storage device, while maintaining the balanced access and while maintaining the same logical addresses for the logical addresses in the initial set of storage devices that are not transferred to the additional storage device.

**24. (original)** A system according to claim 23, and wherein the logical addresses are redistributed so that there is no transfer of the logical addresses between the storage devices in the initial set.

**25. (original)** A system according to claim 23, wherein the distributed logical addresses are determined by applying a consistent hashing function to the initial set of storage devices so as to determine respective initial locations of the logical addresses among the initial set, and wherein redistributing the logical addresses comprises applying the consistent hashing function to the extended set of storage devices so as to determine respective subsequent locations of the logical addresses among the extended set.

**26. (original)** A system according to claim 23, wherein the distributed logical addresses are determined by applying a randomizing function to the initial set of storage devices so as to determine respective initial locations of the logical addresses among the initial set, and wherein redistributing the logical addresses comprises applying the randomizing function to the extended

Serial No.: 10/620,080

set of storage devices so as to determine respective subsequent locations of the logical addresses among the extended set.

**27. (original)** A system according to claim 23, wherein at least one of the storage devices comprises a fast access time memory.

**28. (original)** A system according to claim 23, wherein at least one of the storage devices comprises a slow access time mass storage device.

**29. (original)** A system according to claim 23, wherein the storage devices have substantially equal capacities, and wherein the distributed logical addresses are distributed substantially evenly among the initial set, and wherein redistributing the logical addresses comprises redistributing the logical addresses substantially evenly among the extended set.

**30. (original)** A system according to claim 23, wherein a first storage device comprised in the storage devices has a first capacity different from a second capacity of a second storage device comprised in the storage devices, and wherein the distributed logical addresses are distributed substantially according to a ratio of the first capacity to the second capacity, and wherein redistributing the logical addresses comprises redistributing the logical addresses substantially according to the ratio.

**31. (original)** A system according to claim 23, wherein the distributed logical addresses comprise a specific logical address allocated to a first storage device and to a second storage

Serial No.: 10/620,080

device, the first and second storage devices comprising different storage devices, and wherein storing the data comprises storing a first copy of the data on the first storage device and a second copy of the data on the second storage device.

32. (original) A system according to claim 23, and comprising a memory having a table wherein is stored a correspondence between a plurality of the logical addresses and a specific storage device in the initial set, wherein the plurality of the logical addresses are related to each other by a mathematical relation.

33-44. (canceled)